

REMARKS/ARGUMENTS

The applicant's attorney would like to thank the Examiner for his time during the telephone interview of April 20, 2004. No agreement was reached. Claim 11 was discussed in relation to Meyer and Haigh. We discussed whether the partial vacuum system of Meyer was used to provide pressure to press the conveyors together or to suck out air pockets. After further review of Meyer, the applicant's attorney requests that the Examiner note column 3, lines 24-39 and lines 55 to 65, of Meyer. These passages discuss the problems created by air pockets and then states that the partial vacuum "sucks away the vapor and/or air pockets in the adhesive layers."

Claims 1-10 and 19-30 have been withdrawn. Claim 44 was amended. Claims 31-42 have been canceled.

The Examiner rejected claims 11-18 and 43 under 35 U.S.C. 103(a) as being unpatentable over Haigh (U.S. Patent No. 4,059,471) in view of Meyer (U.S. Patent No. 4,997,507). The Examiner stated that although Haigh disclose that the heating 118 and cooling 120 zones are kept under pressure, he does not specifically disclose, as per applicant claim 11, that the pressure is continuous, but that it would have been obvious to provide for a continuous pressure in the heating and cooling zones of Haigh motivated by the fact that Meyer, also drawn to methods for pressure lamination of substrates drawn through heating and cooling enables any air or vapor pockets between the layer to be removed which results in more uniform contact and uniform conduction of heat throughout the work pieces (Figures 1-4; column 7, line 58 to column 8, line 11; column 8, lines 50-60. The Examiner further states that the skilled artisan would have been appreciative of the fact that continuous pressure, intimate contact between the dye carrier 104 and the substrate of Haigh could be maintained thereby resulting in an ineffective sublimation and migration of the dye stuff from the dye carrier to the substrate which would cause mars, faint spots and generally unappealing decoration of the substrate.

In view of Haigh and Meyer, it would not be obvious that without continuous pressure, intimate contact between the dye carrier 104 and substrate 108 could not be maintained resulting in ineffective sublimation and migration of the dye stuff from the dye carrier to the substrate, which would cause mars, faint spots, and generally unappealing decoration of the substrate. The Examiner failed to point out anything in Haigh or Meyer that suggests that without continuous

pressure, intimate contact between the dye carrier 104 and substrate 108 could not be maintained resulting in ineffective sublimation and migration of the dye stuff from the dye carrier to the substrate, which would cause mars, faint spots, and generally unappealing decoration of the substrate. Col. 3, lines 24-39 and lines 55 to 65, of Meyer teaches that it is air and/or vapor pockets that cause poor quality, not a lack of continuous pressure. The Examiner also failed to point out anything in the art that suggests this.

The Examiner stated that Meyers teaches the use continuous pressure through the use of a continuous double-belt press having an upper and lower belts which are pressed against one another by the action of an evacuating means, citing Figures 1-4; col. 7, line 58, to col. 8, line 11; and col. 8, lines 50-68. The Examiner failed to point out anything in Meyer that suggests the use of continuous pressure. Nothing in the cited sections of Meyer states that pressure should be kept continuously in the first part of the path where heating is done and the second part of the path where cooling is done and therebetween. Instead, figure 1 of Meyers shows different regions where pressure is not continuous. Some examples of such regions are between rollers 24 and 64. In addition, pressure may not be continuous between rollers 24 and 56 and between rollers 56 and 52. As stated above, col. 3, lines 24-39 and lines 55 to 65, of Meyer teaches that it is air and/or vapor pockets that cause poor quality, not a lack of continuous pressure. The Examiner failed to point out any language or anything in the figures of Meyer that teaches continuous pressure in the heating area and cooling area and there between.

Col. 7, line 58, to col. 8, line 11, of Meyer, cited by the Examiner teaches that the partial vacuum is placed to remove "any air or vapor pockets within the adhesive material between the layers of sheet material." Nothing in Meyer teaches or suggests that the suction is so placed to cause the belts to press against each other to press the material. Instead, col. 3, lines 55-65, teaches that the partial vacuum is used to suck away air and/or vapor pockets. In addition, col. 6, lines 3-13, teaches that pressing rollers 54 and 56 are used to press the conveyor belts 18 and 20 and the work pieces 12 together. In addition, it is unclear whether the suction system as shown in Figures 2-4 could be maintained continuously through the pressing rollers 54 and 56. It appears that sealing strips 86 and 84 would need to be pinched between pinch rollers 54 and 56, which would pull and tear the sealing strips 86 and 84, since they do not move with the conveyor belt.

In addition, none of the references teaching continuous pressure from the heating to the cooling and there between, none of the references teach or suggest any advantage of having

continuous pressure between the heating and the cooling. One nonobvious aspect of the invention is recognizing that the release of pressure passing from the heating to the cooling zone causes undesirable results. Whereas Meyer teaches the presence of air and/or vapor pockets provides undesirable results and that a partial vacuum is used to suck away such air and/or vapor pockets.

In addition, even if Meyer did teach the use of continuous pressure it would not be obvious to combine such teaching with Haigh, since Haigh teaches away from placing continuous pressure even during the entire heating process. Col. 11, lines 25-50, of Haigh states that applying pressure during the entire heating process causes the pressure applying means to be tied up during the heating cycle, which limits the production rate. Haigh goes on to teach forming a tri-laminate in a heat and pressure zone and then passing the tri-laminate to a post-pressure heating zone, where there is heat but no pressure. Since Haigh teaches away from applying pressure during the entire heating process, then Haigh in view of Meyer would not suggest applying pressure during the entire heating process, cooling process and there between, as recited in claim 11. For at least these reasons, claim 11 is not made obvious by Haigh in view of Meyer.

Dependent claims 12-18 and 43 are also patentably distinct from the cited references for at least the same reasons as those recited above for the independent claim, upon which they ultimately depend. These dependent claims recite additional limitations that further distinguish these dependent claims from the cited references.


For example, claim 12 teaches a continuous pressure of between 5-50 pounds per square inch. Since Meyer uses a partial vacuum to suck way air and/or vapor pockets (for a different purpose), it would not be obvious to provide a continuous pressure within the recited range.

In addition, claim 14 recites that the continuous pressure limits shrinking, enlarging, extruding, and warping. The Examiner has failed to specifically point out any art that teaches that shrinking, enlarging, extruding, and warping are a problem. In addition, the Applicant requests that the Examiner points out a reference that discloses that continuous pressure from the beginning of the heating to the end of the cooling limits shrinking, enlarging, extruding and warping. The applicant requests that the Examiner provide a reference to support that a skilled artisan would recognize that continuous pressure would avoid structural creep. For at least these reasons, claims 12-18 and 43 are not unpatentable over Haigh in view of Meyer.

The Examiner objected to claim 44 and stated that claim 44 would be allowable if rewritten in independent form. The applicant appreciates the Examiner's comments regarding claim 44. Claim 44 has been amended accordingly.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (831) 655-2300.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

A handwritten signature in black ink, appearing to read "Michael Lee", with a long horizontal flourish extending to the right.

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